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EXAMINER

STOKELY-COLLINS, JASMINE N

ART UNIT	PAPER NUMBER
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4178

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/627,726

Applicant(s)

HEO, YANG-MU

Examiner

Jasmine Stokely-Collins

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period **will** apply and **will** expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply **will**, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-19 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 7/28/2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date ALL.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date: ____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: ____.

DETAILED ACTION

Priority

1. Acknowledgment is made of applicant's claim for foreign priority under 35 U.S.C. 119(a)-(d). The certified copy has been filed in parent Application No. KR 2002-0050634, filed on 8/26/2002.

Claim Objections

1. Claim 10 is objected to because of the following informalities:

Claim 10 limitation "ISN pin" is unclear. It is unclear whether applicant is referring to a predefined acronym (i.e. information systems network, intelligent system network), or acting as his own lexicographer by creating a term without defining it, or simply meant to use the standardized term "INS." Applicant is advised to either expand the acronym for the benefit of clarity or correct the typographical error.

Appropriate correction is required.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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3. Claims 1-2, 6, 8, and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hamaguchi et al (US 5,726,702 A) in view of Chess et al (US 5,802,592 A).

Regarding claim 1, Hamaguchi teaches a digital receiver (column 3 lines 36-49, column 5 lines 32-35, column 7 lines 50-65), comprising:
a memory card storing a main program (multi-media data and software, column 4 lines 32-36, column 5 lines 36-44);
a memory (column 11 lines 57-63);
a central processing unit (microcomputer) controlling operations of the digital receiver and the memory (column 5 lines 33-35);
a memory card interface electrically coupling the memory card and the central processing unit (figure 1); and
a key input unit (column 7 lines 44-50, column 8 lines 49-55).

Hamaguchi does not teach limitation “receiving a control command from a user and outputting a key signal to the central processing unit to control the memory card to directly download the main program from the memory card to the memory.”

Chess teaches receiving a control command from a user and outputting a key signal to the central processing unit to control the memory card (diskette) to directly download the main program from the memory card to the memory (ROM)(column 3 lines 25-28). It would have been obvious to one of ordinary skill

in the art at the time the invention was made to incorporate the teachings of Chess with those of Hamaguchi for the benefit of preventing accidental or unintentional downloads by requiring a special key combination.

Regarding claim 2, when read in light of claim 1, Hamaguchi further teaches the main program has a predetermined file extension (figure 7a, column 11 lines 44-50).

Regarding claim 6, when read in light of claim 1, Chess further teaches the key signal is set by a signal input when keys of the key input unit are simultaneously pressed (column 3 lines 25-28). Chess does not explicitly disclose the combination of an up-key and down-key, however this is an obvious application of the key combination taught by Chess, as the combination of the up-key and down-key typically has not other intervening functionality.

Regarding claim 8, when read in light of claim 1, Hamaguchi further teaches the memory card stores the main program to perform various functions of the digital receiver and to execute audio/video data (column 8 lines 7-11).

Regarding claim 12, when read in light of claim 1, Hamaguchi further teaches the main program performs functions of the digital receiver comprising a

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User Interface (UI) and/or an Electronic Program Guide (EPG) (figure 2, column 7 line 65- column 8 line 11).

4. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hamaguchi et al (US 5,726,702 A) in view of Chess et al (US 5,802,592 A), and further in view of Fries (US 7,134,134 B2).

Regarding claim 7, when read in light of claim 1, Hamaguchi does not teach the memory card comprises one of a memory stick, a media card, a SD memory card, a compact flash, and a smart media.

Fries teaches an EPG stored on a smartcard, compact flash, smart media, or another form factor (abstract). It would have been obvious to one of ordinary skill in the art at the time the invention was made to use one of the memory mediums taught by Fries in place of the optical disk taught by Hamaguchi, as they would achieve the same functionality, in order to better conform to the amount of memory required or the preferred memory card interface.

5. Claims 3-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hamaguchi et al (US 5,726,702 A) in view of Chess et al (US 5,802,592 A) and further in view Jackson (US 6,560,685 B1).

Regarding claim 3, when read in light of claim 1, Hamaguchi in view of Chess teaches the receiver of claim 1.

Hamaguchi in view of Chess does not disclose the memory card interface allows the central processing unit to control an address structure of the main program recorded in the memory card.

Jackson teaches an interface that allows a central processing unit (microprocessor) to control an address structure of the main program recorded in an external memory (column 4 lines 38-55). It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the inventions of Hamaguchi and Jackson for the benefit of enabling the receiver to download pertinent programs from external memory and execute those programs.

Regarding claim 4, when read in light of claim 1, Hamaguchi in view of Chess teaches the receiver of claim 1.

Jackson further teaches the memory stores information under a control of the central processing unit (microprocessor) and stores a boot program (column 4 lines 38-41). Limitation "boot program having information about the memory card interface" is inherent in the system, as the boot program would not be able to copy memory without knowing information about the memory card interface (i.e. which pins are tied to which input, start address of the program, etc).

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6. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hamaguchi et al (US 5,726,702 A) in view of Chess et al (US 5,802,592 A) and Jackson (US 6,560,685 B1), and further in view of Kim (US 7,150,013 B2).

Regarding claim 5, when read in light of claim 4, Hamaguchi in view of Jackson teaches the receiver of claim 4.

Hamaguchi in view of Jackson does not teach the memory stores a boot program in an upper memory area and the main program in a lower memory area.

Kim teaches a method of upgrading programming in a set-top box (abstract, figure 3 element 300 shows the set-top box system) in which the memory stores a boot program (boot loader) in an upper memory area and the main program (application programs) in a lower memory area (figure 4 element 304, column 4 lines 35-38). It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the storing method of Jackson with the receiver taught by Hamaguchi for the benefit of more efficiently using memory space; because the system does not know the size of the main program in advance, it would not know which address to start the pre-loaded boot program instructions if they were to be stored below it in memory.

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7. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hamaguchi et al (US 5,726,702 A) in view of Chess et al (US 5,802,592 A) and Jackson (US 6,560,685 B1), and further in view of Oh et al (US 6,807,597 B2).

Regarding claim 9, when read in light of claim 4, Hamaguchi in view of Chess and Jackson teaches the digital receiver as recited in claims 4 and 1, including a boot program.

Oh teaches a central processing unit (controller) that recognizes the memory card through the memory card interface (column 6 lines 4-15) and controls the information recorded in the memory card (column 7 lines 41-54). It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate Oh's teachings with the digital receiver taught by Hamaguchi in view of Chess for the benefit of enabling the receiver to operate with different types of memory cards (column 3 lines 1-3).

8. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hamaguchi et al (US 5,726,702 A) in view of Chess et al (US 5,802,592 A), and further in view of Oh et al (US 6,807,597 B2).

Regarding claim 10, Hamaguchi in view Chess teaches the digital receiver as recited in claim 1.

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Hamaguchi in view Chess does not teach the memory card comprises a pin connected to an insert recognition terminal of the memory card interface.

Oh teaches the memory card comprises a pin connected to an insert recognition terminal of the memory card interface (column 5 lines 30-32). Oh does not define this pin as an ISN pin, however it is functionally equivalent to applicant's description of the ISN pin. It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate Oh's teaching of a insertion recognition pin with the digital receiver taught by Hamaguchi in view of Chess for the benefit of enabling the receiver to operate with different types of memory cards (column 3 lines 1-3).

9. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hamaguchi et al (US 5,726,702 A) in view of Chess et al (US 5,802,592 A) and Oh et al (US 6,807,597 B2), and further in view of Yap et al (US 2003/0023554 A1).

Regarding claim 11, when read in light of claim 10, Hamaguchi in view of Chess and Oh teach the digital receiver of claims 10 and 1. Limitation "when the memory card is inserted into the memory card interface, a logic voltage of the insert recognition terminal is converted from "low" (0) to "high" (1) and the memory card interface causes an interrupt and sends a memory card insert signal to the central processing unit" is an obvious deduction from column 7 lines 35-40 and figure 3 of Oh's disclosure.

Hamaguchi in view of Chess and Oh does not teach triggering a search of the main program in the memory card through the memory card interface.

Yap teaches the detection of an inserted memory card triggering a search of the main program in the memory card through the memory card interface (page 18 section 0395). It would have been obvious to one of ordinary skill at the time the invention was made to combine Yap's teaching of searching for a program after detecting whether a memory card is inserted with the digital receiver taught by Hamaguchi in view of Chess and Oh for the benefit of convenience and saving time by skipping the step of requiring the user to initiate a search and download sequence.

10. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yap et al (US 2003/0023554 A1) in view of Sutton JR et al (US 2003/0105716 A1).

Regarding claim 13, Yap teaches a method of downloading a main program from a memory card in a digital receiver (abstract, figure 6b and page 6 section 0123 shows a system including a set-top box), wherein the digital receiver comprises a central processing unit, a memory, a memory card interface, and a key input unit (page 7 section 0130), the method comprising: executing a boot program to initialize the digital receiver (figure 26, page 18 section 0385); detecting a memory card insert signal triggering a search of a file having a

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predetermined file extension in the memory card through the memory card interface (figure 28 steps 807-808 and page 18 section 0395 teach determining whether a card was inserted and then searching a memory card for the file matching the coordinates of corresponding icon, which is an obvious variation of using the file extension as an identifier);

reading and storing the file in an auxiliary memory (intermediate storage taught on page 7 sections 0128 and 0130);

reading a header of the file read having the file extension and performing a checksum (page 18 section 0387);

determining whether the file read is the main program (while Yap does not explicitly disclose determining the type of program contained on the memory card, he teaches reading the header which contains all of the information identifying the type of program in page 18 section 0387 and page 13 sections 0252-0263); and

downloading the main program to the memory (page 18 section 0395);

Yap does not teach determining whether the main program is downloaded by checking information of the file recorded in the header and a capacity of the main program recorded in the memory.

Sutton JR teaches determining whether the main program is downloaded by checking information of the file recorded in the header and a capacity of the main program recorded in the memory (page 1 section 0007). It would have been obvious to one of ordinary skill in the art at the time the invention was made

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to incorporate the testing of a successful download taught by Sutton JR with the downloading method taught by Yap for the benefit of ensuring the downloaded file will function properly.

11. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yap et al (US 2003/0023554) in view of Sutton JR et al (US 2003/0105716 A1) and further in view of Hamaguchi et al (US 5,726,702 A).

Regarding claim 14, Yap in view of Sutton JR teaches the method of claim 13. Yap does not teach executing the main program to perform functions of the digital receiver when the main program is stored in the memory.

Hamaguchi teaches executing the main program to perform functions of the digital receiver when the main program is stored in the memory (column 7 line 65- column 8 line 11). It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Hamaguchi with those of Yap in view of Sutton JR for the benefit of increasing the functionality of the digital receiver to include program guide information.

12. Claims 15 and 18-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yap et al (US 2003/0023554 A1) in view of Chess et al (US 5,802,592 A), and further in view of Toft (US 7,072,950 B2), and further in view of applicant's admitted prior art (figure 2).

Regarding claim 15, Yap teaches a method of downloading a main program from a memory card in a digital receiver (abstract, figure 6b and page 6 section 0123 show a system including a set-top box), wherein the digital receiver comprises a central processing unit, a memory, a memory card interface, and a key input unit (page 7 section 0130), the method comprising: executing a boot program (figure 26, page 18 section 0385); and storing the main program in the memory (page 18 section 0395);

Yap does not teach receiving a memory card selection key signal to download a main program directly from the memory card through the memory card interface, wherein the memory card selection key signal is set by an input signal from the key input unit;

downloading the main program from the PC through the DCU;

downloading the main program from the PC through the serial communication when the DCU is unavailable and the memory card selection key signal is not input;

re-booting the system through a reset; and

executing the main program.

Regarding limitation “receiving a memory card selection key signal to download a main program directly from the memory card through the memory card interface, wherein the memory card selection key signal is set by an input signal from the key input unit”, Chess teaches receiving a control command from a user and outputting a key signal to the central processing unit to control the

memory card to directly download the main program from the memory card to the memory (column 3 lines 25-28). It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teachings of Chess with those of Hamaguchi for the benefit of preventing accidental or unintentional downloads.

Yap in view of Chess does not teach downloading the main program from the PC through the DCU;

downloading the main program from the PC through the serial communication when the DCU is unavailable and the memory card selection key signal is not input;

re-booting the system through a reset; and
executing the main program.

Toft teaches re-booting the system through a reset; and
executing the main program (column 6 lines 2-6). It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Toft's teaching of rebooting the system and executing the program for the convenience of the user being able to create program settings and access the set program without needing to manually reboot.

Yap in view of Chess and Toft does not teach downloading the main program from the PC through the DCU; and
downloading the main program from the PC through the serial communication

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when the DCU is unavailable and the memory card selection key signal is not input.

Applicant's admitted prior art teaches using a data control unit (DCU) or a serial communication downloading the main program from the PC through the DCU (figure 2); and downloading the main program from the PC through the serial communication when the DCU is unavailable and the memory card selection key signal is not input (figure 2). It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the ideas taught by the prior art with the invention taught by Yap in view of Tot for the benefit of having a more reliable downloading system in the event that one downloading method fails.

Regarding claim 18, when read in light of claim 15, Chess further teaches the user manipulates the key input unit to input to the central processing unit the memory card selection key signal allowing the main program to be directly downloaded from the memory card (column 3 lines 25-28).

Regarding claim 19, when read in light of claim 15, Chess further teaches the memory card selection key signal is pre-set by the predetermined key signal of the key input unit provided on the digital receiver (column 3 lines 25-28) or a predetermined key signal of a remote controller.

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13. Claims 16 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yap et al (US 2003/0023554) in view of Chess et al (US 5,802,592 A) and Toft (US 7,072,950 B2), and further in view of Prus et al (US 7,069,578 B1).

Regarding claim 16, Yap in view of Chess and Toft teach the method as recited in claim 15.

Yap in view of Chess and Toft does not teach determining whether a memory card insert signal is supplied to download the main program from the memory card when the serial communication and DCU are unavailable; and downloading the main program from the memory card through the memory interface when the memory card insert signal is supplied.

Prus teaches determining whether a memory card insert signal is supplied to download the main program from the memory card (figure 3 elements 304 and 306, and column 6 lines 8-13); and downloading the main program from the memory card through the memory interface when the memory card insert signal is supplied (figure 3 element 308, column 6 lines 8-13).

Regarding limitation “when a serial communication and DCU are unavailable”, applicant’s admitted prior art teaches downloading through serial communication and a DCU, and also teaches the general concept of attempting different download sources in succession upon the failure of one. It would be obvious to add Yap’s teaching of a memory card to the sequence of attempted

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downloading sources for the benefit of increasing the opportunities for a successful download and therefore making the system more reliable.

Regarding claim 17, Yap in view of Chess and Toft teach the method as recited in claim 15.

Yap in view of Chess and Toft do not teach displaying an error when the main program cannot be downloaded from the memory card.

In column 6 lines 7-28, Prus teaches if a main program is either missing or defunct, and cannot be loaded from a smart card (because the smart card was not detected), an error will be displayed. It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the error display taught by Prus with the method taught by Yap in view of Chess and Toft for the benefit of providing a diagnostic tool to the user for troubleshooting.

Conclusion

14. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Jeong (US 2002/0184654 A1) teaches storing a program for executing functions of a set-top box in a separate hard disk drive.

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Ajanovic et al (US 6,374,317 B1) teaches outputting a high logic level when a device is detected in a computer interface and a low logic level when it is not.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jasmine Stokely-Collins whose telephone number is 571-270-3459. The examiner can normally be reached on M-Th 8:00-6:30 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hai Tran can be reached on 571-272-7305. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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